Follow-Up of Newport Kappa Diffractometer Incident at 7ID-C

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For further info, see

http://www.mhatt.aps.anl.gov/~walko/kappa_damage

Reminder of the source of damage:

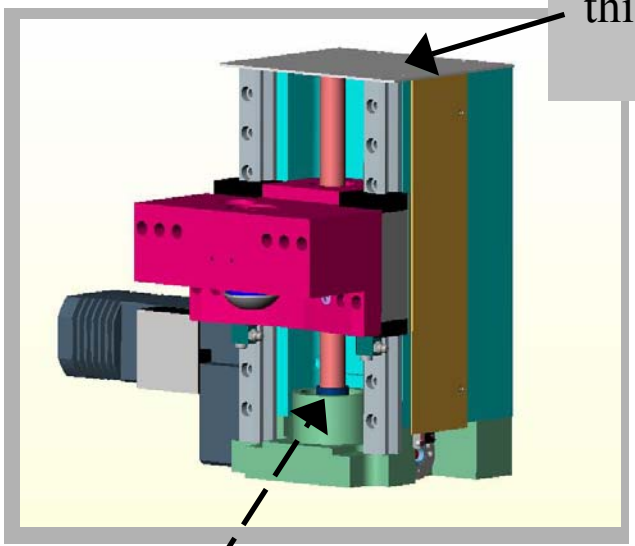
Y1 jack failed & diffractometer fell. Fundamental problem was weak retaining nut, which split in two (in addition to issue of cross-roller bearing cage migration).

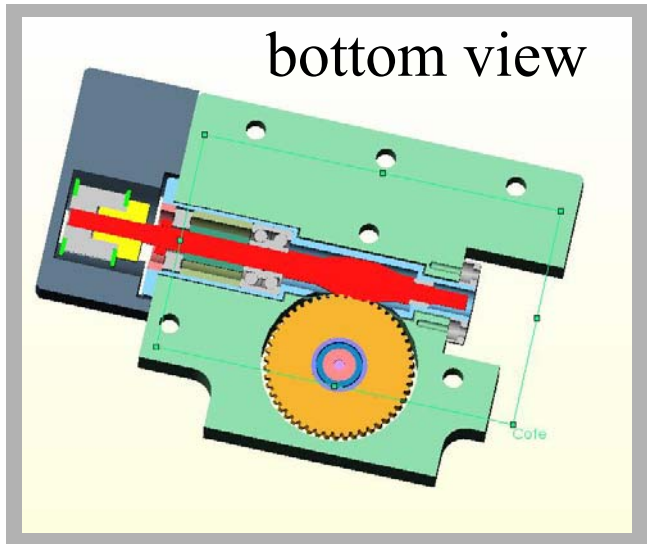
What Newport has offered:

- Repair damage to base
  - return to original condition at Newport's expense
- Redesigned jack, using rail & carriage for slides with recirculating balls
  - we pay for this (roughly at cost)
  - available for other kappa instruments at APS
- Thick safety plate on top of slide (just in case)
- Thicker, better-secured retaining nut

Improved slides

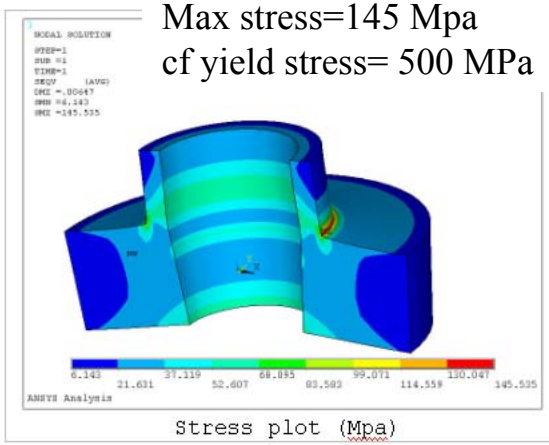
front view



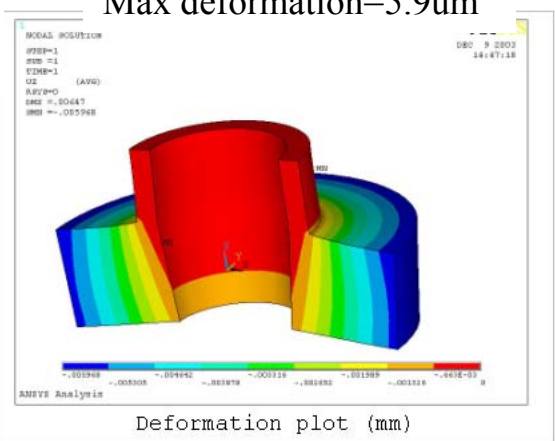


new retaining nut: steel, 11mm thick, now held with three screws

Max stress=145 Mpa
cf yield stress= 500 MPa



Max deformation=5.9um



Dismantling of kappa and shipping of base